

What is claimed is:

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1. A substantially purified polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO:1-29 and fragments thereof.
  2. A substantially purified variant having at least 90% amino acid sequence identity to the amino acid sequence of claim 1.
  3. An isolated and purified polynucleotide encoding the polypeptide of claim 1.
  4. An isolated and purified polynucleotide variant having at least 90% polynucleotide sequence identity to the polynucleotide of claim 3.
  5. An isolated and purified polynucleotide which hybridizes under stringent conditions to the polynucleotide of claim 3.
  6. An isolated and purified polynucleotide having a sequence which is complementary to the polynucleotide of claim 3.
  7. A method for detecting a polynucleotide, the method comprising the steps of:
    - (a) hybridizing the polynucleotide of claim 6 to at least one nucleic acid in a sample, thereby forming a hybridization complex; and
    - (b) detecting the hybridization complex, wherein the presence of the hybridization complex correlates with the presence of the polynucleotide in the sample.
  8. The method of claim 7 further comprising amplifying the polynucleotide prior to hybridization.
  9. An isolated and purified polynucleotide comprising a polynucleotide sequence selected from the group consisting of SEQ ID NO:30-58 and fragments thereof.
  10. An isolated and purified polynucleotide variant having at least 90% polynucleotide sequence identity to the polynucleotide of claim 9.

11. An isolated and purified polynucleotide having a sequence which is complementary to the polynucleotide of claim 9.
12. An expression vector comprising at least a fragment of the polynucleotide of claim 3.
13. A host cell comprising the expression vector of claim 12.
14. A method for producing a polypeptide, the method comprising the steps of:
- a) culturing the host cell of claim 13 under conditions suitable for the expression of the polypeptide; and
  - b) recovering the polypeptide from the host cell culture.
15. A pharmaceutical composition comprising the polypeptide of claim 1 in conjunction with a suitable pharmaceutical carrier.
16. A purified antibody which specifically binds to the polypeptide of claim 1.
17. A purified agonist of the polypeptide of claim 1.
18. A purified antagonist of the polypeptide of claim 1.
19. A method for treating or preventing a disorder associated with decreased expression or activity of GTPAP, the method comprising administering to a subject in need of such treatment an effective amount of the pharmaceutical composition of claim 15.
20. A method for treating or preventing a disorder associated with increased expression or activity of GTPAP, the method comprising administering to a subject in need of such treatment an effective amount of the antagonist of claim 18.

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